

F00440

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE

## DESCRIPTIVE REPORT

Type of Survey Field Examination

Field No. RU-10-1-97

Registry No. F00440

### LOCALITY

State New Jersey

General Locality North Atlantic Ocean

Locality 2 NM East of Sea Bright

1997

CHIEF OF PARTY  
LCDR D.A. Cole, NOAA

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DATE JUL 31 1998



## HYDROGRAPHIC TITLE SHEET

~~H-10736~~  
*FE-440*INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,  
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

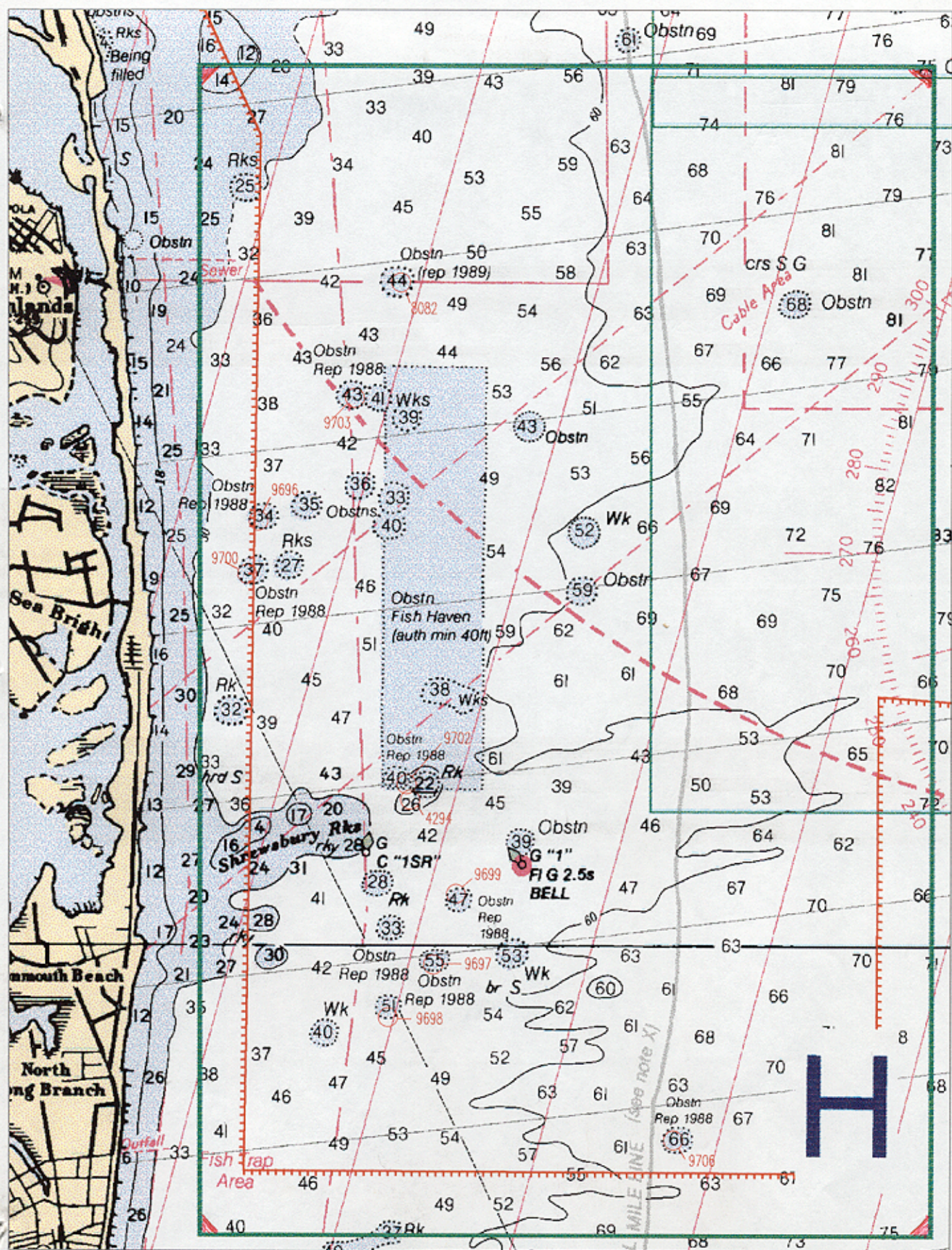
RU-10-1-97

State New JerseyGeneral locality ~~Approaches to New York Harbor~~*NORTH ATLANTIC OCEAN*Locality 2.0 NM East of Sea Bright, NJScale 1:10,000Date of survey April 04, 1997 - June 11, 1997Instructions dated March 04, 1996; February 27, 1997Project No. OPR-C399-RU-97Vessel NOAA Ship RUDE, S-590, EDP 9040Chief of party Lieutenant Commander David A. Cole, NOAASurveyed by CDR SP DeBow; LCDR DA Cole; LTs JM Klay, JG Evjen, JL Riley; ST MT LathropSoundings taken by: (echo sounder, hand lead, pole) Raytheon DSF-6000N echo sounder, SEABAT 9003Graphic record scaled by JGE, MTLGraphic record checked by SPD, DAC, JMK, JGE, MTLProtracted by \_\_\_\_\_ Automated plot by *HP DESIGNJET 350c*Verification by *ATLANTIC HYDROGRAPHIC SURVEY BRANCH PERSONNEL*Soundings in (~~fathoms, feet~~, or meters at ~~MLW~~ or MLLW) meters at MLLW

## REMARKS:

All times recorded in UTC.*NOTES IN THE DESCRIPTIVE REPORT WERE MADE IN RED  
DURING OFFICE PROCESSING**AW015/SURF ✓ 1/17/98 JSV*







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APPENDICES

APPROVAL SHEET

SEPARATES

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## A. PROJECT

A.1 This survey was conducted in accordance with Hydrographic Project Instructions OPR-C399-RU, Approaches to New York Harbor, New York.

A.2 The original instructions are dated March 4, 1996.

A.3 There has been one change to the original instructions, dated February 27, 1997.

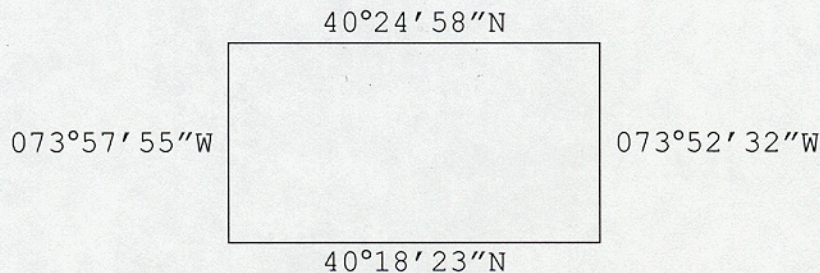
A.4 This survey is designated sheet letter ~~"H"~~ "FE".

A.5 This survey responds to requests from the U.S. Coast Guard, Port Authority of New York and New Jersey, and the United Pilots Benevolent Associations of New York and New Jersey (Sandy Hook Pilots). This survey was requested due to the large volume of deep draft (42-foot) traffic using the approaches to New York Harbor. The area was last surveyed by the Coast and Geodetic Survey between 1950 and the late 1980's.

## B. AREA SURVEYED

B.1 This survey covers an off-shore area of the Atlantic Ocean Approaches to New York, ~~HARBOR~~ <sup>HARBOR</sup>, approximately 2.0 nm east of Sea Bright, NJ.

B.2 The survey comprises ~~one~~ <sup>FIVE PAGE SIZE</sup> ~~sheets~~ <sup>OK</sup> with the following approximate boundaries:



B.3 Data acquisition for this survey began on April 4, 1997 (DN 094) and ended on June 11, 1997 (DN 162).

## C. SURVEY VESSELS

C.1 All hydrography, side-scan and **SeaBat** investigations were conducted from NOAA Ship RUDE, S-590, EDP# 9040.



C.2 The transducer for the multibeam sonar was deployed on a pivoting arm mounted on the port side, approximately amidships. The arm was rotated into the operating position only during times of data acquisition.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO E+A REPORT*

D.1 Coastal Oceanographics' **HYPACK for Windows** (Version 6.4B) was used for data acquisition on this survey. The following Hydrographic Processing System (HPS) software versions were used for data processing:



ABSTRACT.PRG	19970314	GRIDS.PRG	19970218	READTIDE.PRG	19970218
ACADX.PRG	19970212	GRIDX.EXE	19950512	REAPPLY.PRG	19970218
ADDFLD.PRG	19970212	GROUPEPS.EXE	19960520	SCARSX.PRG	19970218
APPTIDE.PRG	19970331	HEADCHK.EXE	19940614	SEGMENT.FMT	19940713
ASCTIDE.BAK	19970401	HPSLIB.BAK	19970211	SNDXTRAC.PRG	19970218
ASCTIDE.PRG	19970401	HPSLIB.PRG	19970321	SND LIST.PRG	19970218
BLK EDIT.BAK	19970129	IDF2CAD.PRG	19970218	SYS MNU.BAK	19970127
BLK EDIT.PRG	19970212	IDF MAKR.PRG	19970218	SYS MNU.PRG	19970325
BROWSER.PRG	19970218	KILL.EXE	19950209	TARGX.PRG	19970218
BROW DAT.PRG	19970218	LIST DAT.BAK	19960624	TBL MNU.BAK	19970307
CC EXCEP.PRG	19970218	LIST DAT.PRG	19970318	TBL MNU.PRG	19970307
CONTACT.FMT	19950614	LIST MNU.PRG	19970218	TIDECHEK.PRG	19970218
CONTACT2.FMT	19950614	LOADRAY.PRG	19970205	TIDED LB.PRG	19970326
CONTMAPX.PRG	19970218	LPICK.PRG	19970314	TIDE FX.PRG	19970326
CONT FND.PRG	19970414	MAINMENU.BAK	19970210	TIDE MNU.PRG	19970218
CONT GRP.PRG	19970218	MAINMENU.PRG	19970210	UTIL MNU.PRG	19970218
CONT MNU.BAK	19970218	MAKEPRJ2.PRG	19951205	UTM2GEO.PRG	19970218
CONT MNU.PRG	19970314	MAKETBLS.PRG	19970218	UTM GEO.PRG	19970218
CONT PUR.PRG	19970218	MAKE PRJ.BAK	19970218	XYZ.PRG	19960531
CONV DAT.PRG	19970317	MAKE PRJ.PRG	19970225	ZONE MNU.PRG	19970326
CPTTIDES.PRG	19970326	MANU DAT.FMT	19950313	ZOOMEDIT.EXE	19970305
CPTZONES.PRG	19950326	MANU DAT.PRG	19970218		
CSTAT.FMT	19940712	MAPINFOX.PRG	19970218		
DATA.FMT	19950629	MERGE.PRG	19970212		
DATA GET.BAK	19970212	NEWNAME.PRG	19970218		
DATA GET.PRG	19970212	OFFSET.FMT	19940720		
DET ABS.BAK	19970218	PC2HARIS.PRG	19970218		
DET ABS.PRG	19970325	PICKER.OLD	19941027		
DIAG MNU.PRG	19970218	PICKER.PRG	19970212		
DPASGAGE.PRG	19950326	PLOTFR.PRG	19970325		
DPAS MNU.PRG	19970326	PLOTINIT.OLD	19970218		
DP PRINT.PRG	19970218	PLOTINIT.PRG	19970218		
EDITALL.PRG	19970218	PLOTTER.FMT	19940506		
EDITDATA.PRG	19970318	PLOT CNT.PRG	19970218		
EDIT MNU.PRG	19970218	PLOT DP.PRG	19970218		
EDSTAT.PRG	19970317	PLOT LL.PRG	19970218		
FEDIT.PRG	19970218	PLOT MNU.BAK	19970218		
FIELDMNU.BAK	19960925	PLOT MNU.PRG	19970321		
FIELDMNU.PRG	19970328	PLOT MTM.PRG	19970218		
FILE MGR.PRG	19970218	PLOT SND.BAK	19970218		
FIND DP.PRG	19970218	PLOT SND.PRG	19970321		
FIX.PRG	19970218	PLOT SWA.PRG	19970318		
FLDCNLST.PRG	19970313	PLOT TRK.PRG	19970321		
FRAME.PRG	19970218	PRETIDE.FMT	19940506		
FTRLIST.PRG	19970218	PROJECTS.FMT	19960911		
GAGE MNU.PRG	19970326	QUIKEDIT.BAK	19970218		
GEO2UTM.PRG	19970218	QUIKEDIT.PRG	19970316		
GEO UTM.PRG	19970218	READDPAS.BAK	19970207		
GETVERS.EXE	19940613	READDPAS.PRG	19970326		
GET PROJ.BAK	19970303	README.PRG	19970207		
GET PROJ.PRG	19970303	READNAUT.BAK	19970305		
GRAFEDIT.EXE	19970305	READNAUT.PRG	19970328		
GRAFEDIT.OLD	19970129	READNAUT.TXT	19970328		



D.2 The **SEABIRD** SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 3.00** software for the **DSF-6000N** and **SeaBat** data. The program **VELOCITY** (Version 3.00) was used to process the collected data and calculate velocity corrections for the **DSF-6000N** data only.

D.3 Triton Corporation's **ISIS** software (Versions 2.34 and 2.35) was used to collect **SeaBat** multibeam and digital side scan sonar data. **SeaBat** data were processed on the **CARIS-HIPS** system, and depths were generated for each **SeaBat** investigation and later entered into HPS via the **HSDUtils Convert** program.

The conversion software to translate **HYPACK** data into HPS-compatible format was supplied by NOAA's Hydrographic Surveys Division (HSD).

Final plots were created in **MapInfo**, a PC-based GIS package, with assistance from HPS-MI **MapInfo** tools supplied by HSD. These tools produced depth, track and swath plots from HPS data, and allowed plotting on a HP750C DesignJet 36" plotter. Data could also be overlaid on a raster image of the applicable chart.

## **E. SONAR EQUIPMENT**

E.1 The RUDE conducted all side scan sonar operations using an **Edgetech** Model 260-TH image-corrected side scan sonar recorder and a 100 kHz Model 272 towfish. Additionally, all side scan sonar data were recorded digitally using the **Triton ISIS** software and archived in the Extended Triton Format (XTF) files.

E.2 The towfish was configured with a 20° beam depression, which is the normal setting and yields the optimum beam correction.

E.3 The 100 kHz frequency was used throughout the survey.

E.4 a. The 75-meter range scale was used, at a line spacing of 120 meters to obtain complete area coverage and provide optimal contact resolution. Data acquired with an EPE of 15 or greater were either rejected or smoothed during post-processing, so the maximum line spacing was never exceeded.

b. Confidence checks were obtained whenever features such as rocks or sand waves were encountered. These features were routinely annotated on the sonar grams on a daily basis.



c. Two hundred percent side scan coverage was completed for this survey. Holiday coverage was run to fill in any gaps. All coverage was checked with on-screen zoomable coverage displays in **MapInfo** to ensure proper overlap between lines.

d. Side scan lines with degraded data returns were rejected and rerun as holidays to ensure 200% side scan coverage throughout the survey.

e. The towfish was deployed exclusively from the stern.

E.5 Sonar records were monitored on-line and reviewed by two persons during processing to identify contacts. Contact offsets and shadow heights were measured on sonar paper records, checked, and entered into the HPS Contact Table to compute contact heights and positions.

E.6 All side scan contacts with an HPS-computed height of one meter or greater were deemed significant and subsequently investigated.

#### **F. SOUNDING EQUIPMENT**

F.1 The primary sounding instrument for this survey was a **Raytheon Model 6000N** Digital Survey Echosounder (DSF-6000N, s/n A107). Both high (100 kHz) and low (24 kHz) frequency sounding data were recorded during data acquisition. Only high frequency DSF soundings were selected and examined. Using **HYPACK**, high frequency DSF soundings were automatically selected at the beginning, end, and every 50 meters along survey lines. Echograms were monitored on-line and reviewed by two persons during processing to verify selected soundings and identify additional sounding inserts. Insert offsets and depths were measured on the echograms, checked, and entered into HPS.

Supplemental soundings on item developments were acquired with a **Reson SeaBat 9003** shallow-water multibeam sonar system. Prior to beginning **SeaBat** data acquisition on this survey, the RUDE **CARIS** Vessel Configuration File was updated to define the physical relationship between the various components that comprise the system, including the **SeaBat** transducer head, **TSS** motion sensor, and GPS antenna. In addition, this offset file contains heave, roll and pitch biases determined during a "Patch Test" conducted in Chesapeake Bay, VA on April 2, 1997. A copy of the Vessel Configuration File is contained in ~~in~~ Separate III.

The **SeaBat** sonar employs a Mills Cross transducer configuration. A can-shaped projector on the forward end of the sensor emits a



455 kHz fan-shaped sonar pulse. Return echoes are received through 40 independent beams, each sampling a 3° crosstrack by 1.5° alongtrack footprint. Measurements are repeated 13 times per second, forming a continuous swath of multibeam coverage along the vessel trackline. The effective swath width is approximately 2.5 times the water depth.

**SeaBat** depth data are displayed during acquisition and reviewed with **CARIS-HIPS** Data Cleaning programs. Depth fliers were identified and manually flagged as "rejected". Vessel positioning and attitude data from GPS, heave, roll and pitch, and gyro sensors were similarly displayed and manually cleaned. Additionally, instantaneous speed as computed from the positioning data was checked for jumps. For this survey, the outer three beams on each side of the swath (beam numbers 1, 2, 3, 38, 39 and 40) were not used, reducing the effective swath width to 102° (3° x 34 beams). Proper overlap between multibeam sonar coverage lines was verified in **MapInfo** using a swath width of 100°.

After review and cleaning, the depth, position, and attitude data were merged with sound velocity, tide and dynamic draft correctors to compute the true depth and position of each sonar footprint. These processed data were excessed by selecting shoal soundings at a density of 3 meters x 3 meters and converted to HPS for further processing. These soundings were then imported into HPS through HSD Utilities.

F.2 During dive investigations, least depths were measured with a MOD III diver gage (s/n 68336) supplied by the Electronic Engineering Division at the Atlantic Marine Center.

F.3 There were no faults in sounding equipment which affected the accuracy or quality of the data.

## **G. CORRECTIONS TO SOUNDINGS**

G.1 a. The velocity of sound through water was measured using a **Sea-Bird** SBE 19 Seacat Profiler (s/n 1251) calibrated December 27, 1996. Velocity casts were conducted daily without exception in accordance with the Project Instructions and the Interim Guidance of April 8, 1997. **Seacat** Data Quality Assurance Tests were conducted after each respective velocity cast to ensure that the unit was operating within tolerance.

Sound velocity data applied to DSF data were processed using program **VELOCITY**. Computed velocity correctors were entered into the HPS sound velocity tables and re-applied during post-



processing to both high and low frequency soundings. **SeaBat** sound velocity and refraction correctors were generated through the **REFRACT** algorithm within **CARIS-HIPS**.

The following velocity casts supplied correctors for this survey:

Cast Number	DN	HPS Table	Applied to Days
27	094	27	094
29	097	29	097
31	105	31	105
34	111	34	111
37	120	37	120
39	125	39	125
41	133	41	133
54	162	54	162

b. A DSF-leadline direct comparison was conducted on June 5, 1997 (DN 156). Leadline and DSF soundings compared satisfactorily. \*See Separate IV for data records. DSF and SeaBat soundings also compared satisfactorily.

c. Sensor offsets and transducer static drafts were measured during the December 1996 dry-dock period. Sensor offsets were stored in HPS Offset Tables and the **CARIS-HIPS** Vessel Configuration File for use in data processing. See Separate IV for data records.

d. Dynamic draft was measured on February 20, 1997. Dynamic draft correctors were stored in HPS Offset Tables and the **CARIS-HIPS** Vessel Configuration File for use in data processing. \*See Separate IV for data records.

e. Heave, pitch and roll data were acquired with a **TSS Model 335B Motion Sensor** (s/n 542). A preseason checkout of the sensor was successfully conducted in accordance with the TSS-335B Operating Manual. Heave corrections were applied to DSF data in HPS. Heave, pitch and roll data were applied to **SeaBat** data through **CARIS-HIPS**.

f. Vessel heading data were acquired with a **Sperry Mark 32** Gyrocompass. Heading data were used to compute **SeaBat** transducer position and orientation.



g. **SeaBat** data were adjusted using biases as determined during a patch test completed on April 2, 1997. See the Vessel Configuration File in ~~\*~~Separate IV for data records.

G.2 The RUDE employed no unusual or unique methods or instruments to correct echo soundings.

G.3 Tide zoning for this project is consistent with the Project Instructions. Tide correctors were developed by applying a -30 minute time difference and a x0.97 range ratio to the unverified observed tides at Sandy Hook, NJ (Station 853-1680). Tide correctors were computed in HPS and applied to DSF and **SeaBat** data.

G.4 The divers least depth gage was calibrated on November 15, 1996.

G.5 The DSF transducer position offset was not corrected. See section I.6e.

G.6 The vertical reference surface for this survey is Mean Lower Low Water.

A request for smooth tides was mailed on August 3, 1997. These data will replace the unverified tide data during verification by N/CS33.

***In HPS, only tide reapplication processing is permissible on multibeam data. If necessary, all other vertical correctors and horizontal offsets should be reapplied to multibeam data using the CARIS HIPS software.***

*Approved tides and zoning have been applied during office processing*

#### H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

The horizontal datum for this survey is the North American Datum of 1983 (NAD 83). No horizontal control stations were used or established for this survey.

#### I. HYDROGRAPHIC POSITION CONTROL

I.1 This survey was conducted exclusively using the Global Positioning System (GPS) corrected by the U.S. Coast Guard Differential GPS reference station network. Differential correctors were supplied from USCG radiobeacon transmitters, precluding the need for shore-based horizontal control stations.



I.2 Accuracy requirements were met as specified by the Hydrographic Manual, section 1.3 and 3.1, and the Field Procedures Manual, section 3.4.

I.3 Differential GPS Equipment:

<u>Unit A</u>	<u>Unit B</u>
Ashtech GPS Sensor	Ashtech GPS Sensor
s/n 700417B1083	s/n 700417B1003
Firmware Version 1E89D-P	Firmware Version 1E89D-P
Magnavox MX50R	Magnavox MX50R
DGPS Receiver s/n 078	DGPS Receiver s/n 160

Correctors were received from the Montauk, NY, Sandy Hook, NJ and Cape Henlopen, DE radiobeacons for the entire survey.

I.4 Daily performance checks were conducted using the Shipboard Data Integrity Monitor program ("**SHIPDIM**", Version 2.1). A 12-hour monitor of the USCG DGPS beacons was conducted, also using **SHIPDIM**. See ~~\*~~Separate III for data records.

I.5 The application of calibration data to the raw positioning data was not required, since DGPS was the primary positioning system.

I.6a. There were no unusual methods used to operate or calibrate electronic positioning equipment.

b. There were no positioning equipment malfunctions.

c. DGPS reception from the Sandy Hook, NJ beacon was intermittent before May 1. During that time, the Montauk, NY or Cape Henlopen, DE beacons were used.

d. The maximum allowed HDOP value of 3.30 was never exceeded.

e. Offsets for the GPS antennae were applied from the **CARIS-HIPS** Vessel Configuration File to compute the position of the **SeaBat** transducer. See ~~\*~~Separate III for data records. **Horizontal positions of the DSF vertical beam echosounding data were not corrected for GPS antenna offsets during field processing.** The horizontal inverse distance between the DSF transducer and the GPS antenna is approximately 2.3 meters.

f. A-frame position (tow point), cable length, towfish height, and depth of water were applied to ship's navigation data in HPS to compute the side scan towfish position.



**J. SHORELINE**

No shoreline is contained within the boundaries of this survey.

**K. CROSSLINES**

Multibeam development lines run perpendicular to mainscheme lines provided cross-comparisons with the mainscheme data. These lines compared favorably, with average differences of about 0.5 feet.

**L. JUNCTIONS**

This survey does not junction with any contemporary surveys.

**M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT***

A comparison with prior surveys will be performed by the Atlantic Hydrographic Branch as part of the office verification process.



# N. ITEM INVESTIGATION REPORTS

AWOIS No. 4294

✓

Item Description: 22 ft. Rock

Source: FE-330SS/89

AWOIS Position: 40°20'49.74"N, 073°56'22.44"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

## Investigation

Date (s)/DN (s): April 7, 15, 30, May 5, 13, June 11, 1997 / DN 097, 105, 120, 125, 133, 162

Position Numbers: 1100-1130, 1400-1830, 1963-1983, 2004-2164, 2217-2957, 2958-3144, 501-502

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. A massive rock with an area much larger than the AWOIS circle was detected and developed with 100% multibeam. A consistent upward slope to the north followed by a sharp dropoff on the north rim was found producing a line of shallow depths along this rim. However, a manmade object about 100 meters south of the north rim produced the least depth at position 2462.1. One dive was conducted using the MOD III Least Depth Gage. Divers found a large pile of construction debris and measured the least depth atop a wooden beam.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	7.8	25	2462.1	40°20'57.182"	073°56'10.187"
SEABAT	8.2	27	52685	40°20'56.995"	073°56'10.175"
Dive	8.3	27	501	40°20'56.853"	073°56'09.925"

## Charting Recommendation

Hydrographer recommends charting the 25 foot least depth, surrounded by a danger curve and annotated as a <sup>\*</sup>Rock (Rk) in the position tabulated above, and that the charted wire drag symbol with clearance of 22 feet be removed.

*concur* \*Concur w/clarification

NOAA Ship RUDE

Descriptive Report  
12

H-10736

*Chart (25): Obstrn*

*Add notation "Rky"*

*Delete (22): Rk*



\*\*\*\*\*

COMPILATION NOTES



Item Description: 44 ft. Obstruction

Source: FE-327SS/89

AWOIS Position: 40°23'45.20"N, 073°56'27.10"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12327, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 15, 1997 / DN 097, 105

Position Numbers: 1243-1270, 1395-1399

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. One significant contact was detected and developed with **SeaBat**. A least depth of 46 feet was found at position 1397.0.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	14.0	46	1397.0	40°23'46.109"	73°56'27.888"
SEABAT	14.4	47	42199	40°23'45.989"	73°56'27.033"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 44 feet should be removed.

\*\*\*\*\*  

*Concur*

COMPILATION NOTES*Delete**44**Obstr**(rep 1989)*



Item Description: 34 ft. Obstruction

Source: H-10284/88

AWOIS Position: 40°22'24.00"N, 073°57'30.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 21, 1997 / DN 097, 111

Position Numbers: 1184-1209, 1984-2003

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. Two significant contacts were detected just to the south of the AWOIS circle and developed with **SeaBat**. A least depth of 34 feet was found at position 1993.1.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	10.4	34	1993.1	40°22'19.086"	073°57'31.332"
SEABAT	10.9	35	57587	40°22'19.716"	073°57'31.688"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 34 feet should be removed. *Concur*

\*\*\*\*\*

COMPILATION NOTES*Delete**Obstr  
Rep 1988**34*



Item Description: 55 ft. Obstruction

Source: H-10284/88

AWOIS Position: 40°20'54.00"N, 073°57'30.00" <sup>19 54.0</sup> <sup>56' 12.</sup>

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 15, 1997 / DN 097, 105

Position Numbers: 1271-1298, 1359-1367

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. One significant contact was detected and developed with **SeaBat**. A least depth of 55 feet was found at position 41190. To the north of the AWOIS item, however, a least depth of 51 feet was found at position 41272. The present chart shows a continued shoaling trend in that direction.

**CONTACT WITHIN AWOIS CIRCLE**

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	16.9	55	1363.0	40°19'56.094"	073°56'12.918"
SEABAT	16.9	55	41190	40°19'56.123"	073°56'12.926"

**NORTH OF AWOIS CIRCLE**

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	16.9	55	1363.0	40°19'58.399"	073°56'13.217"
SEABAT	15.5	51	41272	40°19'58.717"	073°56'13.839"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 55 feet should be removed. *Concur*

\*\*\*\*\*

COMPILATION NOTES*Delete 55: Obstrn Rep 1988*



Item Description: 51 ft. Obstruction

Source: H-10285/88

AWOIS Position: 40°19'36.00"N, 073°56'32.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 4, 7, 15, 1997 / DN 094, 097, 105

Position Numbers: 1035-1069, 1310-1321, 1350-1358

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. Two significant contacts were detected and developed with **SeaBat**. A least depth of 51 feet was found a position 40263. However, charted shoaling to the south and west of the AWOIS item reduces its importance.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	15.6	51	1356.1	40°19'38.878"	073°56'31.666"
SEABAT	15.5	51	40263	40°19'37.750"	073°56'30.710"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 51 feet should be removed.

*concur*

\*\*\*\*\*

COMPILATION NOTES

*Delete (51) Obstr  
Rep 1988*



Item Description: 47 ft. Obstruction

Source: H-10384/88

AWOIS Position: 40°29'<sup>20 15.00</sup>18.38"N, 073°52'<sup>56' 02.00</sup>16.48"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 15, 1997 / DN 097, 105

Position Numbers: 1070-1099, 1368-1382

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. Two significant contacts were detected and developed with **SeaBat**. A least depth of ~~4~~<sup>16</sup> feet was found at position 1369.1. However, survey depths of 44 feet to the west of the AWOIS item reduces its importance.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	14.2	46	1369.1	40°20'15.602"	073°56'02.172"
SEABAT	14.3	47	41450	40°20'05.706"	073°56'02.193"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 47 feet should be removed.

\*\*\*\*\*  
*Concur*  
 \*\*\*\*\*

COMPILATION NOTES

*Delete*      *47 Obstr*  
                  *Rep 1988*



AWOIS No. 9700 ✓

Item Description: 37 ft. Obstruction

Source: H-10284/88

AWOIS Position: 40°22'06.00"N, 073°57'35.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 15, 1997 / DN 097, 105

Position Numbers: 1157-1183, 1388-1391

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. One significant contact was detected and developed with **SeaBat**. A least depth of 33 feet was found at position 41988.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	10.4	34	1389.1	40°22'07.280"	073°57'33.726"
SEABAT	10.2	33	41988	40°22'07.662"	073°57'33.878"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. <sup>Do Not Change</sup> The blue tint and charted obstruction at 37 feet should be replaced by a charted depth of 33 feet at 40°22'07.662"N, 073°57'33.878"W. <sup>Concern</sup>

\*\*\*\*\*

COMPILATION NOTES

Delete (37) Obstr  
Rep 1988

Add (33) Obstr



Item Description: 40 ft. Obstruction

Source: H-10284/88

AWOIS Position: 40°20'55.00"N, 073°56'24.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
InvestigationDate (s)/DN (s): April 7, 15, 30, May 5, 13, 1997 / DN 097,  
105, 120, 125, 133Position Numbers: 1131-1155, 1400-1830, 1963-1983, 2004-2164,  
2217-2957, 2958-3144

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar  
at a line spacing of 120 meters. A large rocky area was  
detected and was developed with 100% multibeam in conjunction  
with AWOIS 4294. A least depth of 41 feet was found at position  
46002.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	13.0	42	1556.1	40°20'57.971"	073°56'27.454"
SEABAT	12.5	41	46002	40°20'57.513"	073°56'27.145"

-----  
Charting RecommendationHydrographer recommends charting the representative depths from  
the present survey. The blue tint and charted obstruction at 40  
feet should be removed.\*\*\*\*\*  
\*\*\*\*\* *Concur* \*\*\*\*\*COMPILATION NOTES*Delete (40) Obstr Rep 1988**(located inside Fish Haven)  
auth min. 40 ft**Add (41) Obstr*



AWOIS No. 9703 ✓

Item Description: 43 ft. Obstruction

Source: H-10284/88

AWOIS Position: 40°23'06.00"N, 073°56'49.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12324, 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 7, 1997 / DN 097

Position Numbers: 1210-1242

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. One significant contact was detected and developed with **SeaBat**. A least depth of 38 feet was found at position 1393.1.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	11.7	38	1393.1	40°23'04.489"	073°56'51.515"
SEABAT	12.4	41	42094	40°23'04.631"	073°56'51.417"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. <sup>Do Not Remove</sup> The blue tint and charted obstruction at 43 feet should be replaced by a 38 foot depth at 40°23'04.489"N and 073°56'51.417"W. <sup>Concern</sup>

\*\*\*\*\*

COMPILATION NOTES

Delete (43) Obstr (rep 1988)

Add (38) Obstr



AWOIS No. 9706 ✓

12300

Item Description: 66 ft. Obstruction cleared by Wire Drag

Source: H-10285/88

AWOIS Position: 40°18'55.00"N, 073°54'25.00"W

Required Investigation: Full, 200% SSS, 100m radius

Charts Affected: 12326, 12300

-----  
Investigation

Date (s)/DN (s): April 4, 7, 15, 1997 / DN 094, 097, 105

Position Numbers: 1000-1034, 1299-1309 1337-1349

Positioned Determined by: DGPS

Investigation Summary: Investigated using 200% side scan sonar at a line spacing of 120 meters. One significant contact was detected and developed with **SeaBat**. A least depth of 65 feet was found at position 40824. However, charted shoaling to the north, west and south of the AWOIS item reduce its importance. The **SeaBat** least depth reflects this shoaling.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	20.1	<del>66</del> 67	1342.0	40°18'53.842"	073°54'26.177"
SEABAT	19.9	65	40824	40°18'57.813"	073°54'26.451"

-----  
Charting Recommendation

Hydrographer recommends charting the representative depths from the present survey. The blue tint and charted obstruction at 66 feet should be removed.

*Concur*

\*\*\*\*\*

COMPILATION NOTES

*Delete (66) Obsdn Rep 1988*



In addition to the assigned AWOIS items, the eastern portion of Shrewsbury Rocks was surveyed with 200% side scan and **SeaBat** to determine whether there was any shoal connecting Shrewsbury Rocks with the 100% multibeam area around AWOIS items 4294 and 9702. The survey showed that the two areas were separated by deep water as charted. The least depths are indicated below.

Method	Depth (m)	Depth (ft)	Fix #	Latitude (N)	Longitude (W)
DSF	6.8	22	1959.0	40°20'49.115"	073°56'52.026"
SEABAT	<del>7.1</del> 6.9	<del>22</del> 23	56658	40°20'48.831"	073°56'53.056"

Charts Affected: 12324, 12326, 12300

*Chart representative depths from present survey*



O. COMPARISON WITH THE CHART

*See ALSO EVALUATION REPORT*

O.1 Four charts are affected by this survey:

Chart 12300  
37th Ed. 11 January 1997  
Scale: 1:400,000

Chart 12324  
28th Ed. 1 March 1997  
Scale: 1:40,000

Chart 12326  
44th Ed. 1 February 1997  
Scale: 1:80,000

Chart 12327  
91st Ed. 19 April 1997  
Scale: 1:40,000

O.2 No Danger to Navigation reports were submitted for this survey.

O.3 Comparison of Soundings

a. The overall correlation between charted soundings and survey depths is excellent, with average differences of approximately one to two feet in most areas. Soundings that differed significantly are discussed in Section N. The survey was compared to charts 12326 and 12327 only.

b. No shoaling or deepening trends were found in the survey area.

P. ADEQUACY OF SURVEY

*SEE ALSO EVALUATION REPORT*

This survey is complete and fully adequate to supersede prior survey data in common areas.

Q. AIDS TO NAVIGATION

Q.1 Detached positions were taken on two floating aids to navigation located in or near the boundaries of this survey.

Q.2 A comparison was made between the detached positions and the largest scale chart of the area. Neither floating aid was



found to deviate from its charted position by more than a few meters. Each aid adequately serves the apparent purpose for which it was established.

## **R. STATISTICS**

R.1 a. Number of Positions . . . . .	26417
b. Lineal Nautical Miles of Sounding Lines . . . . .	48.6
Nautical Miles of Survey With the Use of Side Scan Sonar . . . . .	9.7
Nautical Miles of Survey Without the Use of Side Scan Sonar . . . . .	38.9
R.2 a. Square Nautical Miles of Hydrography per 100% of Coverage . . . . .	0.5
b. Days of Production . . . . .	8
c. Detached Positions . . . . .	.2
d. Bottom Samples . . . . .	0
e. Tide Stations . . . . .	1
g. Velocity Casts . . . . .	8
j. <b>SeaBat</b> Item Investigations . . . . .	14

## **S. MISCELLANEOUS** *SEE ALSO EVA Report*

- S.1 a. No evidence of shoaling was found during this survey.
- b. No evidence of anomalous tides or tidal current conditions was found during this survey.
- S.2 No bottom samples were obtained during this survey.

## **T. RECOMMENDATIONS**

- T.1 No additional field work is required.
- T.2 The hydrographer is aware of no construction or dredging that will affect results of this survey.
- T.3 No further investigation of the survey area is recommended.

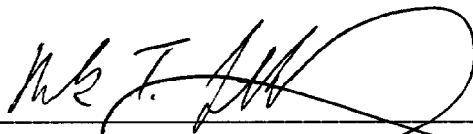


**U. REFERRAL TO REPORTS**

<u>Title</u>	<u>Transmittal Information</u>
Landmarks and Nonfloating Aids to Navigation Report New York Harbor	Atlantic Hydrographic Branch N/CG244 Atlantic Marine Center



This report and the accompanying field sheets are respectfully submitted.



---

Mark T. Lathrop  
Survey Technician  
NOAA Ship RUDE



---

Joseph G. Evelyn, LT, NOAA  
Field Operations Officer  
NOAA Ship RUDE





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Coast Survey  
Silver Spring, Maryland 20910-3282

APR 8 1997

MEMORANDUM FOR: Commander Samuel P. Debow, NOAA  
Commanding Officer, NOAA Ship RUDE  
FROM: Captain Andrew A. Armstrong, III, NOAA  
Chief, Hydrographic Surveys Division  
SUBJECT: Multibeam Data Acquisition Interim Guidance -  
Sound Velocity Profile (SVP) Casts

The following guidelines are provided to ensure quality multibeam data acquisition:

- 1) RUDE least-depth item investigations using the Seabat 9003 require at least one cast per week. Least depths must fall within  $\pm 30^\circ$  of nadir in the multibeam swath.
- 2) Where RUDE is instructed to conduct full-coverage multibeam surveys (e.g. patch tests), at least two SVP casts must be taken each day (i.e. eight hours) of data acquisition. One cast should be taken at day's beginning, and a second cast approximately two hours before day's end.
- 3) Casts need to be taken to depths of least 95% of the maximum depth expected for the survey area.
- 4) The Hydrographer must be aware of local effects which can contribute to changes in salinity and temperature in the survey area. The Hydrographer should decrease swath spacing or increase the frequency of casts when data quality becomes suspect due to sound velocity.

Questions regarding this guidance can be directed to LCDR Gerd Glang, HSD Systems Support Branch, 301-713-2705.



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**VII GENERAL** This section contains information of general concern to the mariner. Mariners are advised to use caution while transiting these areas.

# **MARY OF DREDGING / CONSTRUCTION OPERATIONS STILL IN EFFECT**

Following is a list of construction and dredging projects still in effect. Mariners are advised to use caution while transiting these areas. The L column refers to the LNM in which the article first appears and where detailed information may be obtained. The dates listed for completion are tentative. An asterisk in the left margin marks new information.

LOCATION	SUBJECT	COMPLETION DATE	LNM REF
----------	---------	-----------------	---------

**MA - OFF/SHORE** - The U.S. Navy advises of daily firing exercises from 6:30 am to 7:30 pm, 14 - 20 April 1997, in an area bounded by the following: 41°02.5N, 70°42W; to 41°07N, 70°22W; to 41°05N, 70°10W 41°00N, 69°55W; to 40°48N, 69°36W; to 40°30N, 69°36W; to 40°30N, 70°42W, thence to beginning. Chart(s): 13003, 13006, 13200 LNM 16/97 (CGD1)

**ME - SOUTH PORTLAND** - Installation of submarine cables between the bascule piers of the new Portland - South Portland Bridge began 7 April, 1997 and will continue for about one month. On scene will be a barge with a crane and a clam bucket. Mariners are advised to use caution while transiting the area.  
Chart(s) 13292 LNM 16/97 (CGD1)

**NY - LOWER BAY** - The NOAA Ship RUDE is conducting hydrographic surveys in the Lower Bay and its approaches from April - June 1997. The purpose of the surveys is to update the existing nautical charts of the region. The survey area extends up to 10 nautical miles offshore from Monmouth Beach to Highlands, NJ and in all waters within 5 nautical miles of Sandy Hook. The RUDE is a 90 ft white-hull vessel with a blue NOAA logo on the bow, which will be monitoring channels 13 and 16. During operations the ship tows a side scan sonar approximately 30 yards astern. Mariners are requested to give RUDE a wide berth as the ship often makes erratic maneuvers during survey operations.  
Chart(s): 12401, 12324 LNM 16/97 (CGD1)

**ENVIRONMENTAL STUDY** - Surveys are being conducted until 25 May, 1997 within a 20 mile radius of the following position: 39°55N, 70°40. Meters will be set at the following positions: 39°56N, 70°40W. On scene will be the R/V MAURICE EWING. Mariners are advised to use extreme caution while transiting the area as the vessels ability to maneuver will be limited.  
LNM 16/97 (CGD1)

**NJ - SANDY HOOK TO BARNEGAT INLET** - Dredging will be done along the New Jersey Coast adjacent to the Long Branch Area beginning 16 April 1997 and continuing for about a year and a half. On scene will be a trailing suction hopper dredge #405 "R.N. WEEKS", which will transport material from the offshore borrow site to a near shore location. The mono buoy #370 will then transport the material to the beach placement location. The work will begin from the Northernly limits and proceed south. The hours of operation will be 24 Hours a day, 7 days a week. Mariners are requested to exercise care and reduce speed when transiting the area.  
Chart(s) 12324 LNM 16/97 (CGD1)

**NY - EAST ROCKAWAY INLET** - The following uncharted aids have been reestablished: East Rockaway Inlet Buoy 4 (LLNR 31525) and East Rockaway Inlet Lighted Buoy 6 (LLNR 31535).  
LNM 16/97 (CGD1)

**NANTUCKET SOUND AND APPROACHES** - Dredging is being done in Green Pond, Eel Pond and Great Pond until on or about 24 April 1997. The hours of operation will be Monday - Friday, 7:00 am - 4:00 pm. On scene will be the dredge "COD FISH" and attending tugs, which will be monitoring channels 9, 10 and 16. Mariners are advised to use caution while transiting the area.  
Chart(s) 13237 LNM 16/97 (CGD1)

**NY - NEW YORK HARBOR** - Dredging is being done until approximately 6 June 1997, in the vicinity of National Dry Dock Channel Buoys 2 - 7 (LLNR 37210 - 37230), which were temporarily discontinued for the dredging. Two red anchor balls are in the place of Buoy 2 and Buoy 4. The work is being done 24 hours a day. On scene will be the dredge 51, which will be monitoring channel 7. Mariners are advised to use caution while transiting the area.  
Chart(s) 12327, 12334, 12335 LNM 16/97 (CGD1)

**NY - UPPER BAY** - A sunken anchor has been located within Federal Anchorage 21C, Bayridge Anchorage, in position 40°38.38'N, 074°03.10'W. Mariners are advised to avoid anchoring in this area.  
Chart(s) 12334 LNM 16/97 (CGD1)

**NY - EAST RIVER** - A NO WAKE ZONE is requested under the Queensboro/59th Street Bridge for the safety of the workers on a barge doing construction on the bridge. The NO WAKE ZONE will be in effect until 15 November 1997.  
Chart(s) 12335 LNM 16/97 (CGD1)

**ME - SCARBOROUGH RIVER** - The following uncharted aids have been reestablished: Scarborough River Buoy 7 (LLNR 07910) and Scarborough River Buoy 9 (LLNR 07920), and Scarborough River Buoy 10 (LLNR 07925).  
LNM 16/97 (CGD1)

## **BRIDGE SECTION**

BRIDGE	TYPE	WATERWAY	MILE	SUBJECT	REF/LNM
Million Dollar	B	Fore River	1.5	Bridge Construction	06-96
Route 1A	SW	Danvers River	0.0	New Bridge Construction	19-96
Craig Br.	B	Charles River	1.0	Bridge Closure	15-97
Main Street	F	Powwow River	0.1	Bridge Construction	07-97
Route 53	F	North River	12.0	Bridge Construction	07-97
Old Providence Rd.	F	Palmer River	0.7	Bridge Replacement	07-97
Route 114	F	Barrington River	0.4	Temp. Bridge Construction	07-97
Peck Railroad	B	Pequonnock River	0.3	Bridge Replacement	07-97
Congress Street	B	Pequonnock River	0.4	Marine Information	07-97
W/Haddam	SW	Connecticut River	16.8	Bridge Repairs	09-97
W/Haddam	F	Connecticut River	51.7	Bridge Rehabilitation	07-97
Tomlinson	B	Quinnipiac River	0.0	Marine Information	07-97
Stratford Ave.	B	Yellow Mill Channel	0.3	Horz. Clear. Reduction	11-97
Route 29	F	Champlain Canal	NA	Horz. Clear Reduction	21-96
Route 9	F	Erie Canal	4.3	Bridge Rehabilitation	06-96





**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** September 25, 1997

**HYDROGRAPHIC BRANCH:** Atlantic

**HYDROGRAPHIC PROJECT:** OPR C399-RU

**HYDROGRAPHIC SHEET:** H-10736 *F00440* *GLM* *7/18/03*

**LOCALITY:** Approaches to New York Harbor, N.Y.

**TIME PERIOD:** April 4, - June 11, 1997

**TIDE STATION USED:** 853-1680 Sandy Hook, N.J.  
Lat. 40° 28.0'N Lon. 74° 00.6'W

**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 m  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 1.481 m

**REMARKS:** RECOMMENDED ZONING

Use zone(s) identified as: SH1

Refer to attachment(s) for zoning information.

**Note:** Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

*[Signature]*  
\_\_\_\_\_  
CHIEF, TIDAL ANALYSIS BRANCH



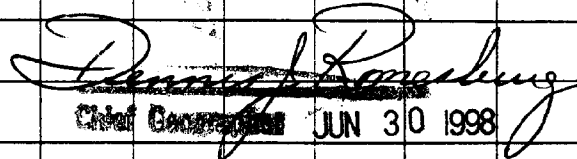


## GEOGRAPHIC NAMES

FE-440

Name on Survey	ON CHART NO. 12374, 12326		ON PREVIOUS SURVEY		CON U.S. QUADRANGLE MAPS		FROM LOCAL INFORMATION		ON LOCAL MAPS		P.O. GUIDE OR MAP		GRAND McNALLY ATLAS		U.S. LIGHT LIST	
	A	B	C	D	E	F	G	H	K							
NEW JERSEY (title)	X		X													1
NORTH ATLANTIC OCEAN (title)																2
SEA BRIGHT (title)	X		X													3
SHREWSBURY ROCKS	X		X													4
																5
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Approved:

  
Chief Geographer JUN 30 1998



07/08/98

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NUMBER: F00440

NUMBER OF CONTROL STATIONS 2

NUMBER OF POSITIONS 26417

NUMBER OF SOUNDINGS 26417

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	32	03/11/98
VERIFICATION OF FIELD DATA	112	06/05/98
EVALUATION AND ANALYSIS	8	
FINAL INSPECTION	26	07/02/98
COMPILATION	36.50	07/08/98
TOTAL TIME	215	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		07/02/98

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N/CS33-59-98

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY  
(Check):

- ☐ ORDINARY MAIL ☐ AIR MAIL  
☐ REGISTERED MAIL ☒ EXPRESS  
☐ GBL (Give number) \_\_\_\_\_

DATE FORWARDED

7-9-98

NUMBER OF PACKAGES

ONE TUBE

TO:

NOAA / National Ocean Service  
Chief, Data Control Group, N/CS3x1  
SSMC3, Station 6100  
1315 East-West Hwy.  
Silver Spring, MD 20910-3282

**NOTE:** A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

Field Examination F00440

OPR-C399-RU-97

New Jersey, North Atlantic Ocean  
2 nm East of Sea Bright

1 Mylar Smooth Sheet

1 Mylar H-Drawing for NOS Chart 12324

1 Mylar H-Drawing for NOS Chart 12326

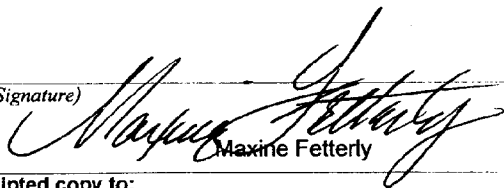
1 Paper Composite Plot for NOS Chart 12324

1 Paper Composite Plot for NOS Chart 12326

1 Descriptive Report

2 Drawing History forms 76-71 for NOS Charts 12324 and 12326

FROM: (Signature)

  
Maxine Fetterly

RECEIVED THE ABOVE  
(Name, Division, Date)

Return receipted copy to:

Maxine Fetterly  
Atlantic Hydrographic Branch  
439 W. York St.  
Norfolk, VA 23510



APPENDIX VII

APPROVAL SHEET

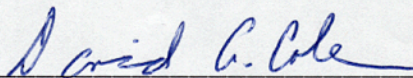
LETTER OF APPROVAL

REGISTRY NO. ~~H-10736~~

F00440  
GAM  
7/18/03

Field operations contributing to the accomplishment of this Navigable Area survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. All field sheets and reports were reviewed in their entirety and all supporting records were checked as well.

This survey was completed with 200% side scan sonar coverage and is adequate to supersede all prior surveys in common areas. The survey is considered complete and adequate for nautical charting.



David A. Cole, LCDR, NOAA  
Commanding Officer  
NOAA Ship RUDE



**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR F00440 (1997)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

**D. AUTOMATED DATA ACQUISITION AND PROCESSING**

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System (HPS)  
NADCON, version 2.10  
MicroStation 95, version 5.05  
SiteWorks, version 2.01  
QUICKSURF, version 5.1  
I/RAS B, version 5.01

The smooth sheet was plotted using an Hewlett Packard Design Jet 350C plotter.

**H. CONTROL STATIONS**

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 0.395 seconds (12.189 meters or 1.22 mm at the scale of the survey) north in latitude, and 1.509 seconds (35.604 meters or 3.56 mm at the scale of the survey) east in longitude.

**M. COMPARISON WITH PRIOR SURVEYS**

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled, "Changes to Hydrographic Survey Processing", dated May 24, 1995.

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- O. COMPARISON WITH CHART 12300 (37<sup>th</sup> Edition, Jan 11/97)  
12324 (28<sup>th</sup> Edition, Mar 1/97)  
12326 (44<sup>th</sup> Edition, Feb 1/97)  
12327 (91<sup>st</sup> Edition, Apr 19/97)

### **Hydrography**

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparison in sections N. and O. of the Descriptive Report. Attention is directed to the following:

The following uncharted rocks were located by the present survey:

<u>Depth</u> <u>Ft/m</u>	<u>Latitude</u>	<u>Longitude</u>
29/9	40°20'53.83"N	73°56'06.44"W
29/9	40°20'57.67"N	73°56'06.40"W

Due to chart scale, it is recommended that the notation "rky" be charted.

The present survey is adequate to supersede the charted hydrography within the common area.

### **P. ADEQUACY OF SURVEY**

This is an adequate hydrographic/side scan sonar survey. No additional work is recommended.

### **S. MISCELLANEOUS**

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The following NOS charts were used for compilation of the present survey: 12324 (28<sup>th</sup> Edition, Mar 1/97)  
 12326 (45<sup>th</sup> Edition, Jan 10/98)



Franklin L. Saunders

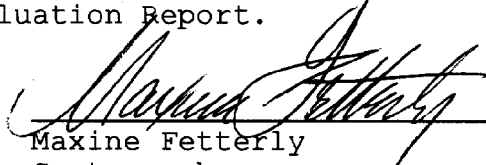
**Franklin L. Saunders**  
Cartographic Technician  
Verification of Field Data  
Evaluation and Analysis



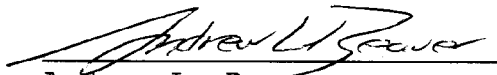
APPROVAL SHEET  
F00440

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

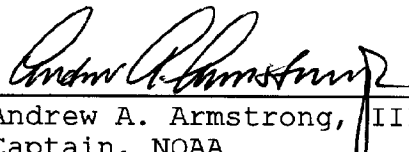
 Date: 2 July 1998  
Maxine Fetterly  
Cartographer  
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

 Date: 6 JULY 98  
Andrew L. Beaver  
Lieutenant Commander  
Chief, Atlantic Hydrographic Branch

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Final Approval:

Approved:  Date: July 29, 1998  
Andrew A. Armstrong, III  
Captain, NOAA  
Chief, Hydrographic Surveys Division



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F00440

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED